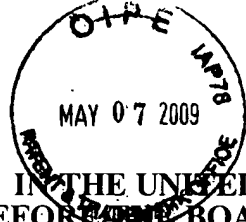


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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appellants: Simonutti et al.

Title: HIGH VELOCITY GOLF BALL

Appl. No.: 10/780,005

Filing Date: 17 February 2004

Examiner: Alvin A. Hunter

Art Unit: 3711

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APPELLANTS' REPLY BRIEF UNDER 37 CFR 41.41

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Appellants herewith file their Reply Brief in the above-identified case, in response to the Examiner's Answer mailed March 6, 2009. Appellants respectfully submit that the Examiner's assertions are incorrect as a matter of law and fact. Thus, for the reasons set forth below, Appellants respectfully request that this Board reverse the rejections of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 under 35 U.S.C. §103(a).

In the Examiner's Answer, the Examiner reiterates the rejections of claims 1, 2, 5, 8, 10-13, 18, 19, 28-30, 32-34, 36, 37, 41, 42, and 57-68 under 35 U.S.C. §103(a) presented in the Office Action mailed 27 March 2008, presents a response to Appellants' arguments presented in the Appeal Brief, and raises new grounds of rejection for claims 33 and 34 and for claim 58.

Appellants maintain that the cited references fail to collectively disclose, teach, or suggest Appellants' claimed golf ball.

RESPONSE TO EXAMINER'S COMMENTS

In the Examiner's Answer mailed on March 6, 2009, the Examiner raises new grounds for rejection of claims 33 and 34 and for claim 58. Specifically, claims 33 and 34 are now rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* (U.S. Patent No. 5,779,561) in view of *Statz et al.* (U.S. Patent No. 6,815,480) and *Yamada et al.* (U.S. Patent No. 5,585,440) further in view of *Yamagishi et al.* (U.S. Patent No. 5,779,563). Additionally, claim 58 is now rejected under 35 U.S.C. 103(a) as being unpatentable over *Sullivan '561* in view of *Statz et al.* and *Yamada et al.*

"New grounds of rejection in an examiner's answer are envisioned to be rare, rather than a routine occurrence." *MPEP* §1207.03. However, once again, the Examiner offers a new grounds for rejection. In fact, remarkably, this is now the fifth time the Examiner has asserted a new grounds for rejection of claims of the present Application. *See Office Actions dated* June 14, 2004, March 25, 2005, December 13, 2006 (following Appellant's first filing of a Notice of Appeal and Appeal Brief), March 27, 2008 and March 6, 2009 (recent Examiner's Answer).

Appellants maintain their position regarding the pending claims and the cited references as previously stated in the previously filed Appeal Brief and Reply Brief. Appellants respectfully submit that the pending claims are patentable over the cited references including *Sullivan '561*, *Statz et al.*, *Yamada et al.*, *Yamagishi et al.* and *Caschera, Jr.* for at least the reasons stated below and the previously submitted Appeal and Reply Briefs. The Examiner's latest assortment of the cited references in the new grounds for rejection of claims 33, 34 and claim 58 fail to overcome the existing deficiencies of the cited references.

Appellants maintain that the golf ball constructions disclosed and taught by *Sullivan '561* and *Statz et al.* do not inherently result in golf balls possessing the Shore D hardness and initial velocity requirement of Appellants' claim 1.

The Examiner's Answer cites MPEP 2123, noting that disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiment. Appellants are not suggesting that *Sullivan '561* teaches away from a golf ball having a cover layer with a Shore D hardness value of greater than 70. Instead, Appellants note that the reference in *Sullivan '561* to a cover layer having a Shore D hardness value of at least 60 is a broad statement encompassing most golf balls. ***Sullivan '561* does not disclose or identify the significance of producing a golf ball having a cover layer with a Shore D hardness value of greater than about 70, particularly with the initial velocity requirement of Appellants' claim 1.**

In the Remarks section on page 10, the Office Action asserts that "the examples [in *Sullivan '561*] show the hardness of the outer cover being Shore D 68, or about 70." While *Sullivan '561* includes examples (*i.e.*, Comparative Example 1 and Example 1 in columns 15 and 16) in which the Shore D hardness is as high as 68, nowhere does *Sullivan '561* teach or suggest a golf ball having a cover layer with a Shore D hardness value of "about 70" or, more particularly, greater than about 70. Furthermore, the golf balls in these examples having an outer cover with a Shore D hardness of 68 each have a COR of 0.807 *or less* (measured at a test velocity of 125 feet-per-second); whereas Appellants' claim 2 specifically recites a COR of ***greater than*** 0.815 at a test velocity of 150 feet-per-second.

Appellants' data provided in Table 4 on page 13 of the application shows the linear relationship between COR and velocity, with COR ***decreasing*** as velocity ***increases***. In reference to dependent claim 2, which adds the limitation "the golf ball has a coefficient of restitution of greater than 0.815 at a test velocity of 150 feet-per-second," *Sullivan '561* discloses a golf ball having a coefficient of restitution ("COR") of at least 0.750 with a test velocity of 125 +/- 5 fps. The COR is linearly related to velocity along a ***negative*** slope. Thus, the parameters are inversely proportional, with COR decreasing as test velocity increases. This relationship results, at least in part, because as the velocity increases, the golf

ball deforms more upon impact, and the energy absorbed by the deformation reduces the golf ball's return velocity, and therefore its COR. Therefore the 0.750 COR of *Sullivan '561* at a test velocity of 125 fps would actually *decrease* at a velocity of 150 fps as required by claim 2. Accordingly, *Sullivan '561* does not teach, suggest or disclose the COR and velocity limitation of dependent claim 2. Similarly, all of the COR values listed in *Statz et al.* are measured at a test velocity of 125 fps, none of which are as high as, or higher than, Appellants' recited value of 0.815 (at 150 fps).

As noted in the Office Action and in the Examiner's Answer, Appellants' claim 1 includes structural limitations as well as performance-based property limitations. More particularly, the golf ball comprises a solid center having a deflection within a specific range; at least one intermediate layer comprising a specific thermoplastic material; and a cover layer having a particularly high Shore D hardness. With all of these components combined, the resulting golf ball has exceptional initial velocity properties when struck with a driver club.

A variety of factors can affect the initial velocity property of a golf ball. For example, the weight, specific fillers, and/or size of the ball can all affect the initial velocity. **The initial velocity limitation distinguishes Appellants' claimed golf ball from other golf balls**, such as those that sacrifice the high initial velocity for greater distance. Appellants note that the U.S. Patent & Trademark Office database includes at least 40 issued golf-related U.S. patents that include initial velocity claim limitations, which suggests that such limitations have been found to distinguish claims from other golf balls.

With respect to the *Yamagishi et al.* reference, this reference does not disclose a golf ball wherein the core, intermediate layer and cover have approximately the same specific gravity. **While the ranges of specific gravity of each of the components overlap one another, there is no suggestion or motivation to produce each of the components with approximately the same specific gravity.** Instead, *Yamagishi et al.* teaches increasing the moment of inertia of the golf ball by moving as much weight to the outer portion of the golf

ball as possible. Thus, in column 2, lines 31-34, *Yamagishi et al.* teaches that the cover outer layer must have a higher specific gravity than the cover inner layer, thereby specifically teaching away from the components having approximately the same specific gravity as recited in claims 11, 12, 33 and 34.

Moreover, *Yamagishi et al.* is devoid of any disclosure, teaching or suggestion of a golf ball having a core, a mantle, and a cover layer with approximately the same specific gravity, such that when the ball is rotated in a solution of salt water of sufficient density to support the ball, the ball exhibits no single preferred orientation. As stated in the present application, such balance improves the intended flight and roll path of the ball.

Appellants' claims 10, 36, 13, and 37 include the limitations "wherein the ball has a diameter of less than about 1.680 in." and "wherein the ball has a diameter within the range of 1.62 to 1.65 inches," respectively. In contrast, the disclosure of *Sullivan '561* is consistent with USGA requirements that require a minimum golf ball diameter of 1.68 inches. *Sullivan '561* specifically states, "[t]he ball preferably has a diameter of at least 1.68 inches, and more preferably at least 1.70 inches."

The Examiner's Answer, once again, cites MPEP 2123, noting that the preferred embodiments do not limit the disclosure of the patent. However, *Sullivan '561* fails to disclose or teach a diameter of less than 1.68 inches. In light of the strictly enforced, well-known USGA minimum diameter requirement for golf ball design, neither the USGA nor a person of ordinary skill in the art would equate a diameter of 1.68 inches with a diameter within the range of 1.62 to 1.65 inches. The decreased diameter of the golf ball of claims 10, 13, 36, and 37 facilitates the golf ball's high velocity performance.

Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan '561* to have a diameter smaller than 1.680 inches, because such a modification would be repugnant to the teachings of *Sullivan '561*. As set forth in MPEP

2143.01(VI), if a proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *Sullivan '561* is directed to a USGA-approved golf ball. Clearly, the modifications proposed by the Office Action would push the golf ball outside the parameters of USGA approval, thereby changing the principle of operation of the *Sullivan '561* ball.

Similarly, *Sullivan '561* specifically discloses a golf ball having a weight within the range of 43.8 to 45.9 grams, well outside the ranges specified by Appellants' claims 60, 61, 65, and 66. This disclosure of *Sullivan '561* is consistent with USGA requirements that require a *maximum* golf ball weight of 1.62 ounces. The golf balls of claims 60, 61, 65, and 66 are outside of the USGA requirements and outside of the disclosure and teachings of *Sullivan '561*. Despite the disclosure in *Caschera, Jr.*, there is no suggestion or motivation to modify the golf ball of *Sullivan '561* to have a weight greater than 1.62 ounces (45.9 grams), because such a modification would be repugnant to the teachings of *Sullivan '561*.

Regarding the new rejection of claims 33 and 34, both claims depend from independent claim 28. Independent claim 28, recites a golf ball including a core, a mantle, and a cover layer. The core includes a high cis-content polybutadiene rubber. The rubber is synthesized using a neodymium catalyst. The mantle includes a co- or ter- polymer of ethylene and acrylic acid, wherein 100% of the acid groups are neutralized with metal ions. The cover layer includes an ionomer and has a Shore D hardness, measured on the curved surface of the golf ball, of greater than about 70. The golf ball exhibits a coefficient of restitution of greater than about 0.785 at a test velocity of 175 feet-per-second.

Sullivan et al. '561, Statz et al., Yamada et al. and Yamagishi et al. do not disclose, teach or suggest the golf ball of claim 28. In particular, *Sullivan et al. '561, Statz et al., Yamada et al., and Yamagishi et al.* do not disclose, teach or suggest a golf ball including a core, a mantle including a co- or ter- polymer of ethylene and acrylic acid, wherein about

100% of the acid groups are neutralized with metal ions, a cover layer comprising an ionomer having a Shore D hardness, measured on the curved surface of the golf ball of greater than 70, the golf ball having a coefficient of restitution of greater than 0.785 at a test velocity of 175 feet-per-second. Much of the discussion above relating to claim 1 is directly applicable to these limitations of claim 28. *Yamada et al.* is directed to rubber compositions for golf balls and does not disclose, suggest or teach the Shore D hardness and COR limitations of claim 28. The deficiencies of *Yamagishi et al.* are discussed above and in the Appellant's Appeal Brief. Appellants respectfully submit that claim 28 is patentable over *Sullivan et al.* '561, *Statz et al.* *Yamada et al.* and *Yamagishi et al.* for at least the same reasons stated above with respect to claim 1. Appellants also respectfully submit that claims 29, 30, 32, 33, 34, 41, 42, 58, (59), 62-64, 67, and 68, which depend from claim 28 (or claim 1), are also patentable over *Sullivan et al.* '561, *Statz et al.*, *Yamada et al.*, and *Yamagishi et al.* for at least the same reasons.

CONCLUSION

Appellants maintain that the cited references fail to collectively disclose, teach, or suggest Appellants' claimed golf ball. For at least the reasons presented in the Appeal Brief, and the additional reasons presented above, Appellants respectfully submit that the Examiner's Answer does not overcome Appellants' Appeal Brief. Therefore, Appellants respectfully request that the Board reverse the rejections proposed by the Patent Office.

Respectfully submitted,

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